

RISER DIAGRAM "A"
STAGE III STEP (H) - SEE DWG #E-6

STAGE III, STEP (H) - TRANSFER LOADS TO BUS #1, 2 & EL

CONDUIT DESIGNATION - BANK ELEVATORS -		LOAD OUTAGES - SEE NOTE #6	
		* = CATEGORY "A" OR "B" ** = CATEGORY "C"	
R-4 NORMAL FEEDER TO BUS #EL	<ul style="list-style-type: none"> a. - INSTALL R-4 COT & WIRE FROM SWGR, BUS #1 TO BUS #EL VIA TRANSFER SWITCH (ENERGIZE) 	R-10 BANK "A" ELEV.	<ul style="list-style-type: none"> a. - CUT EXIST. COT. (R-11) & REMOVE BACK TO EXIST. SWGR. b. - INSTALL COT. R-10 FROM BUS #EL TO EXIST. COT. (R-11) & CONNECT c. - CUT EXIST. FDR (R-10) IN EXIST. P.B. #2 & REMOVE FROM EXIST. COT. d. - INSTALL FDR R-10 FROM BUS #EL TO EXIST. P.B. #2 & SPICE TO LOAD SIDE. (ENERGIZE)
R-3 EMERG. FEEDER TO BUS #EL	<ul style="list-style-type: none"> a. - CUT EXIST. COT. (R-2) & REMOVE BACK TO EXIST. SWGR. b. - INSTALL COT. R-3 FROM TRANSFER SWITCH TO EXIST. B-2 COT. & CONNECT. c. - INSTALL FDR R-3 FROM TRANSFER SWITCH TO EXIST. PANEL EPC-758. (ENERGIZE) * - d. - "Y" SPICE TO EXIST. FDR R-3 IN EXIST. PANEL EPC-758. (ENERGIZE) 	R-4 DISCONNECT EXIST. ELEVATOR TRANSFER SWITCH	<ul style="list-style-type: none"> a. - REMOVE FDR R-4 FROM EXIST. SWGR TO TRANSF. SW. b. - CUT EXIST. "Y" SPICE FDR R-3 IN PNL EPC-758 REMOVE TAP TO EXIST. TRANSF. SW & REMAKE SPICE (ENERGIZE)
C CONTROL FOR BANK ELEVATORS	<ul style="list-style-type: none"> a. - DISCONNECT EXIST. AND CONNECT CONTROL WIRING DESIGNATED ON DWG #E-99 	C CONTROL FOR BANK ELEVATORS	<ul style="list-style-type: none"> a. - DISCONNECT & REMOVE CONTROL WIRING FROM EXIST. TERMINAL CABINET TO EXIST. TRANSFER SWITCH. DESIGNATED ON DWG #E-99.
R-13 BANK "D" ELEV.	<ul style="list-style-type: none"> a. - CUT EXIST. COT. (X1 & X2) & REMOVE BACK TO EXIST. SWGR. b. - INSTALL COT. R-13 FROM BUS #EL TO EXIST. COT. (X1 & X2) & CONNECT c. - DISCONNECT EXIST. FDR (R-13) IN PNL EL-876 & REMOVE BACK TO EXIST. SWGR. * - d. - INSTALL FDR R-13 FROM BUS #EL TO EXIST. PNL EL-876 & CONNECT. (ENERGIZE) 	R-5 MOTOR CONTROL CENTER MCC-ME75R	<ul style="list-style-type: none"> a. - INSTALL R-5 COT & WIRE FROM SWGR, BUS #2 TO MCC-ME75R VIA P.B. #17 * - b. - DISCONNECT EXIST. & CONNECT FDR R-5 AT MCC-ME75R (ENERGIZE) c. - REMOVE EXIST. COT & WIRE BACK TO EXIST. SWGR.
R-12 BANK "C" ELEV.	<ul style="list-style-type: none"> a. - CUT EXIST. COT. (X3) & REMOVE BACK TO EXIST. SWGR. b. - INSTALL COT. R-12 FROM BUS #EL TO EXIST. COT. (X3) & CONNECT * - c. - CUT EXIST. FDR (R-12) IN EXIST. P.B. #2 & REMOVE FROM EXIST. COT. d. - INSTALL FDR R-12 FROM BUS #EL TO EXIST. P.B. #2 & SPICE TO LOAD SIDE. (ENERGIZE) 	R-BT EMERGENCY LIT.	<ul style="list-style-type: none"> a. - CUT EXIST. COT (R-2) & REMOVE BACK TO EXIST. SWGR. b. - INSTALL COT R-BT FROM SWGR, BUS #2 TO COT. (R-2) & CONNECT. c. - INSTALL FDR R-BT FROM SWGR, BUS #2 TO PNL EPC-758 * - d. - DISCONNECT EXIST. & CONNECT FDR R-BT AT PNL EPC-758 (ENERGIZE) e. - REMOVE EXIST. FDR (R-BT) BACK TO EXIST. SWGR.
R-11 BANK "B" ELEV.	<ul style="list-style-type: none"> a. - CUT EXIST. COT. (X4) & REMOVE BACK TO EXIST. SWGR. b. - INSTALL COT. R-11 FROM BUS #EL TO EXIST. COT. (X4) & CONNECT * - c. - CUT EXIST. FDR (R-11) IN EXIST. P.B. #2 & REMOVE FROM EXIST. COT. d. - INSTALL FDR R-11 FROM BUS #EL TO EXIST. P.B. #2 & SPICE TO LOAD SIDE. (ENERGIZE) 	R-3 WATER SUPPLY PUMPS	<ul style="list-style-type: none"> a. - CUT EXIST. COT. (R-3) & REMOVE BACK TO EXIST. SWGR. b. - DISCONNECT & REMOVE EXIST. FDR R-3 AT EXIST. WATER PUMP CONTROLLER. * - c. - INSTALL COT. R-3 FROM BUS #2 TO EXIST. COT. (R-3) & CONNECT d. - INSTALL FDR R-3 FROM SWGR, BUS #2 TO EXIST. WATER PUMP CONTROLLER VIA P.B. #16 (ENERGIZE)

I HEREBY CERTIFY THAT THIS IS A TRUE AND CORRECT COPY OF ONE OF THE CONTRACT DRAWINGS CONSTITUTING A PART OF CONTRACT NO. **WTC-802.071** IN THE FORM IN WHICH SAID DRAWINGS EXISTED AT THE TIME THE SAID CONTRACT WAS EXECUTED BY THE PARTIES.

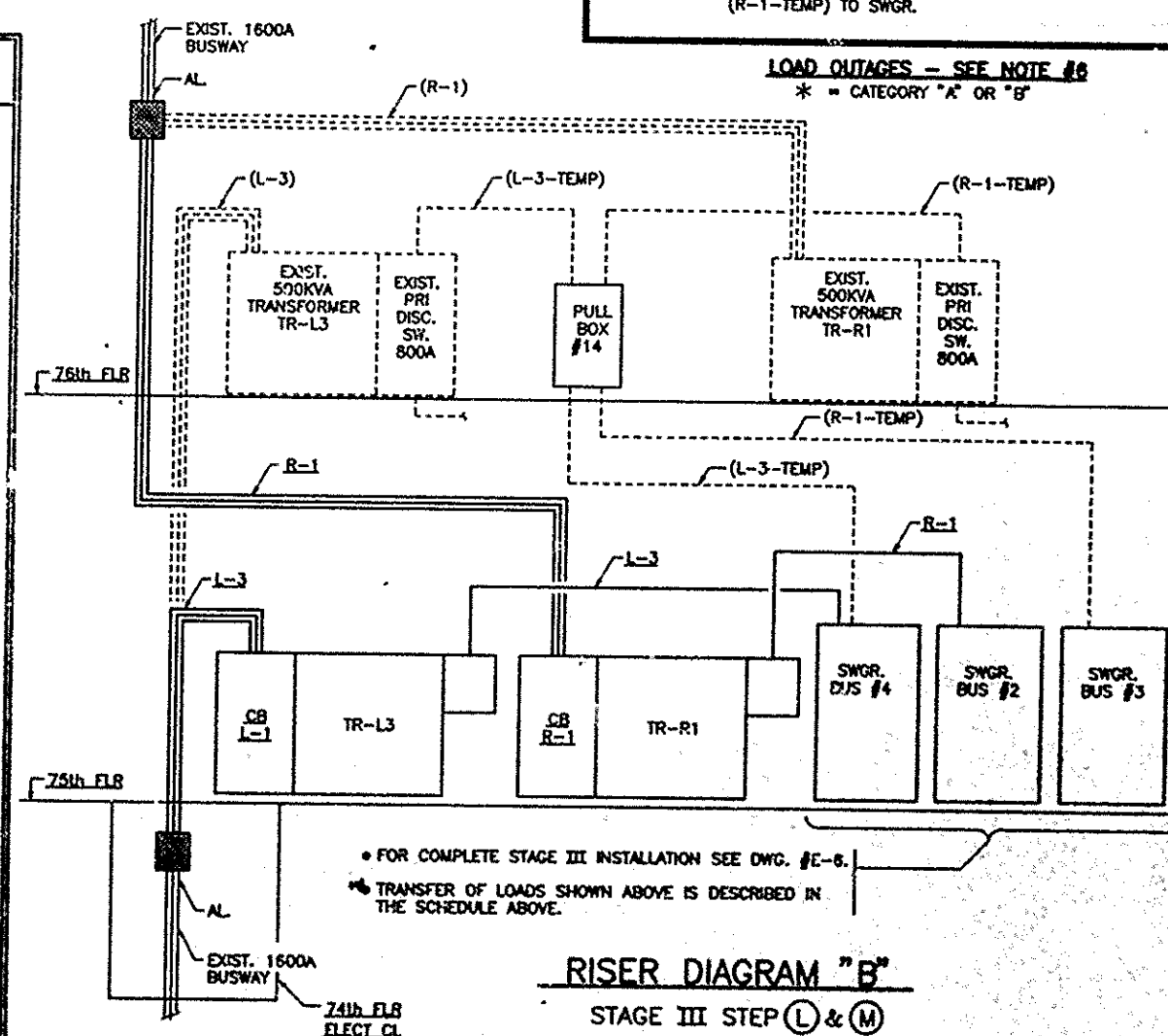
D. DATE **6/21/95** *Samhan A. Alam* SPEC. WRITER
DATE **8/15/95** *Fluck* ENGINEER OF DESIGN

NOTE

- FOR LEGEND SEE DWG. #E-1. FOR GENERAL NOTES AND ABBREVIATIONS SEE DWG. #E-2.
- FOR NUMBER AND SIZE OF CONDUIT & WIRE SEE:
• DWG. #E-85 - CONDUIT AND CABLE SCHEDULE
• DWG. #E-99 - AIS CONNECTION DIAGRAM
- FDR A-3 WILL TEMPORARILY SUPPLY BOTH NEWLY INSTALLED & EXIST. BANK ELEV. TRANSFER SWITCHES. VIA "Y" SPICE.
- CONDUIT CABLE AND BUSWAY DESCRIBED IN SCHEDULE STAGE III STEP (H) SHALL BE INSTALLED PRIOR TO ENERGIZING BUS #1, 2 & EL. FEEDERS THAT USE EXIST. FEEDER CONDUITS SHALL BE INSTALLED WITH SWITCHGEAR ENERGIZED.
- SCHEDULE STAGE III STEP (L) & (M) SHALL BE INSTALLED WITH SWITCHGEAR ENERGIZED.
- ALL ELECTRICAL OUTAGES SHALL BE PERFORMED OUTSIDE NORMAL BUILDING OPERATING HOURS. SEE SPECIFICATIONS DIVISION 1 ENTITLED "CONDITIONS AND PRECAUTIONS" FOR DESCRIPTION OF ELECTRICAL POWER OUTAGE CATEGORIES.

SCHEDULE STAGE III STEP (L) & (M)
TRANSFER LOADS L-3 & R-1

- L-3 208/120V TRANSF. ELEC CLOS "E" 59-74th FLR'S**
- INSTALL TRANSFORMER "L-3" WITH CB-L3.
 - INSTALL L-3 COT. & WIRE FROM SWGR, BUS #4 TO TRANSF. "L-3". (CONNECT AT TRANSF.)
 - INSTALL BUSWAY L-3a FROM CB-L3, END AT BUSWAY
 - REMOVE EXIST. BUSWAY TO EXIST. TRANSF. "L-3".
 - INSTALL BUSWAY TRANSITION BOX ON EXIST. BUSWAY & CONNECT BUSWAY L-3a.
 - DISCONNECT EXIST. FDR L-3-TEMP AND CONNECT FDR L-3 AT SWGR. (ENERGIZE)
 - REMOVE EXIST. TRANSF. L-3, DISC. SW. AND FDR. (L-3-TEMP) TO SWGR.
- R-1 208/120V TRANSF. ELEC CLOS "E" 77-93rd FLR'S**
- INSTALL TRANSFORMER "R-1" WITH CB-R1.
 - INSTALL R-1 COT. & WIRE FROM SWGR, BUS #2 TO TRANSF. "R-1". (CONNECT AT TRANSF.)
 - INSTALL BUSWAY R-1a FROM CB-R1, END AT BUSWAY
 - REMOVE EXIST. BUSWAY TO EXIST. TRANSF. "R-1".
 - INSTALL BUSWAY TRANSITION BOX ON EXIST. BUSWAY & CONNECT BUSWAY R-1a.
 - DISCONNECT EXIST. FDR R-1-TEMP AND CONNECT FDR R-1 AT SWGR. (ENERGIZE)
 - REMOVE EXIST. TRANSF. R-1, DISC. SW. AND FDR. (R-1-TEMP) TO SWGR.



RISER DIAGRAM "B"
STAGE III STEP (L) & (M)

THE PORT AUTHORITY
OF NY & NJ

Peter L. Sweeney
ENGINEERING PROGRAM MANAGER
WORLD TRADE CENTER
Fluck
SHEP ELECTRICAL ENGINEER

Engineering Department
Design Division
The World Trade Center
Electrical/HVAC
Upgrade Program

Title
TOWER ONE AND TWO
LOW VOLTAGE
SUBSTATIONS
CONSTRUCTION AND
INSTALLATION
ELECTRICAL
SUBSTATION SS-75E
STAGE III LOAD
TRANSFER SCHEDULE
AND RISER DIAGRAM

No.	Date	Revision	Approved
1	5-1-95	1	LEAHY/ FISCHER

This drawing subject to conditions in contract. All inventions, ideas, designs and methods herein are reserved to Port Authority and may not be used without its written consent.

Designed by **LEAHY** Drawn by **LEAHY** Checked by **LEAHY**

Date **5-1-95** Scale **AS NOTED**

Contract Number **WTC 802.071** Drawing Number **E-91**